New approaches to deterrence in Britain, France and the United States

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Each of the three nuclear powers in NATO has revealed new thinking about deterrence in recent years. While much of the new thinking preceded the terrorist attacks against the United States on 11 September 2001, some of it reflects reassessments in the light of those attacks and other signs of change in the international security environment. Despite their differences, London, Paris and Washington have each come to focus on contingencies involving terrorists and regional powers armed with weapons of mass destruction as the most likely near-term challenges for deterrence.

This article offers an overview of some key adjustments in the declared policy of each of these nations. It identifies some similarities, and highlights significant differences. It then examines enduring common challenges: unanswered questions about deterrence facing all three countries and the alliance as a whole.

Britain

The July 1998 Strategic Defence Review (SDR) mentioned nuclear deterrence with respect to two eventualities, 'regional conflict inside the NATO area' (an attack on a NATO ally) and 'strategic attack on NATO' (an attack on the alliance as a whole).[1] In the SDR, the United Kingdom announced unilateral reductions in the number of 'operationally available warheads'. With the withdrawal of the Royal Air Force's last WE177 bombs in March 1998, the British chose to rely on Trident SLBMs (Submarine Launched Ballistic Missiles) as their sole delivery system, and concluded that 'we need a stockpile of less than 200 operationally available warheads. This is a reduction of a third from the maximum of

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[1] Ministry of Defence, *The Strategic Defence Review*, Cm 3999 (London: Stationery Office, July 1998), p. 16, paras 55, 56.

300 announced by the previous government and represents a reduction of more than 70% in the potential explosive power of the deterrent since the end of the Cold War.'[2]

The Blair government justified its 1998 decision to 'make further significant reductions from Cold War levels, both in the number of weapons and in our day-to-day operating posture', with the assertion that Britain's 'deterrence requirements' do not 'depend on the size of other nations' arsenals but on the minimum necessary to deter any threat to our vital interests'.[3] Nevertheless, while denying any role for the capabilities of other nations in determining its deterrence requirements, the Blair government also noted that 'Circumstances have … changed dramatically since Trident was ordered. The improvements in the strategic landscape have clearly reduced the nuclear deterrent capability we need to underpin our security.'[4] It would be logical to infer from this statement that some forms of deterioration in the strategic environment could call for an increased nuclear deterrent capability, but this conclusion was not drawn explicitly. Instead, the Blair government emphasized its commitment 'to the goal of the global elimination of nuclear, biological and chemical weapons. We will work to create conditions in which even a minimum level of nuclear deterrence is no longer necessary.'[5] The 1998 SDR acknowledged the potential role of non-nuclear forces in deterrence: 'In order to deter, and where deterrence fails, we must maintain forces which can be successful in conventional warfighting.'[6]

The terrorist attacks on the United States on 11 September 2001 led the Ministry of Defence to prepare what it called 'A New Chapter' for the 1998 Strategic Defence Review. As Geoff Hoon, the Secretary of State for Defence, put it, these attacks demonstrated the potential 'for the use by our adversaries of asymmetric action to achieve strategic effect'.[7]

The articulation of deterrence policy in the 'New Chapter', published in July 2002, is noteworthy in several respects. In comparison with the oblique and abstract quality of previous declarations, the July 2002 statements—while still characteristically British in their understatement—are firmer and more pointed:

> The UK's nuclear weapons have a continuing use as a means of deterring major strategic military threats, and they have a continuing role in guaranteeing the ultimate security of the UK. But we also want it to be clear, particularly to the leaders of states of concern and terrorist organisations, that all our forces play a part in deterrence, and that we have a broad range of responses available … We want it to be clear that the UK, along with our partners, can reach into the way they operate, and that they could lose their power, and see their organisations closed down … We must therefore maintain a

[2] Ministry of Defence, *The Strategic Defence Review*, p. 18, para. 64.
[3] Ministry of Defence, *The Strategic Defence Review*, p. 17, para. 61.
[4] Directorate of Defence Policy, Ministry of Defence, *The Strategic Defence Review: supporting essays* (London: Stationery Office, July 1998), p. 5–1, para. 7.
[5] Directorate of Defence Policy, Ministry of Defence, *The Strategic Defence Review: Supporting Essays*, p. 5–17, para. 55.
[6] Ministry of Defence, *The Strategic Defence Review*, p. 16, para. 58.
[7] Ministry of Defence, *The Strategic Defence Review: A New Chapter*, Cm 5566, vol. I (London: Stationery Office, July 2002), p. 4.

wide and flexible range of military options, including conventional weapons with a capacity for precision and penetration so as to minimise incidental damage …

But, crucially, our deterrent extends well beyond the military dimension to a response co-ordinated across Government and with friends and allies … Creating the right international climate will be important, fostering the view in all cultures that certain actions are to be condemned as criminal acts … Aggression against us will not secure political or military advantage, but invite a proportionately serious response. Those, at every level, responsible for any breach of international law relating to the use of weapons of mass destruction will be held personally accountable.[8]

In contrast with previous articulations of deterrence policy, the post-9/11 British statements have been less abstract and more sharply focused on holding malefactors 'personally accountable' for their actions.[9]

In March 2002 Hoon was asked by another MP, Jim Knight, whether 'such a state [as Iraq] would be deterred by our deterrent from using weapons of mass destruction against our forces in the field'. Hoon replied:

I think that there are clearly some states who would be deterred by the fact that the United Kingdom possesses nuclear weapons and has the willingness and ability to use them in appropriate circumstances. States of concern, I would be much less confident about, and Saddam Hussein has demonstrated in the past his willingness to use chemical weapons against his own people. In those kinds of states the wishes, needs and interests of citizens are clearly much less regarded and we cannot rule out the possibility that such states would be willing to sacrifice their own people in order to make that kind of gesture.

Knight asked a follow-up question: 'Is it a confidence about whether or not they believe you would use them or confidence about whether or not they would care about whether you use them?' Hoon answered: 'They can be absolutely confident that in the right conditions we would be willing to use our nuclear weapons. What I cannot be absolutely confident about is whether that would be sufficient to deter them from using a weapon of mass destruction in the first place.'[10]

This statement and others implied that adversaries prepared to employ chemical or biological weapons should not assume that they are at no risk of nuclear retaliation, even if they have no nuclear weapons and are not allied with a nuclear weapons state (in accordance with the negative security assurances given by Britain and the other western NPT-recognized nuclear powers). As was noted in the July 2002 SDR 'New Chapter',

We have made clear that our responses will be proportionate and in accordance with our international legal obligations. But we will not let the less scrupulous think we do

[8] Ministry of Defence, *The Strategic Defence Review: A New Chapter*, p. 12.

[9] The British had referred to personal accountability as part of deterrence prior to the 'New Chapter' report, for example, in *Defending against the threat from biological and chemical weapons* (London: Ministry of Defence, July 1999), p. 10.

[10] House of Commons, Select Committee on Defence, Examination of witnesses, questions 236 and 237, 20 March 2002, available at www.parliament.the-stationery-office.co.uk/pa/cm200102/cmselect/cmdfence/644/2032008.htm.

not mean business, or simplify an aggressor's calculations by announcing how we would respond in particular circumstances. The only certainty we should offer is that we shall respond appropriately if we need to, using any of a wide range of options open to us. It should be clear that legally the right to self defence includes the possibility of action in the face of an imminent attack.[11]

The last sentence of this statement is also noteworthy as an example of the British refusal to rule out pre-emptive action. To promote uncertainty in the minds of potential adversaries about how Britain might respond in particular contingencies, it is important to retain ambiguity and latitude about London's possible choices.[12]

The British hold that deterrence involves several capabilities in addition to nuclear weapons, and that non-nuclear capabilities are especially important in efforts to influence the thinking of non-state adversaries. Nuclear weapons are reserved for the most extreme contingencies, in view of the proportionality principle the British have repeatedly reaffirmed. To retaliate against enemy states or non-state organizations, it is particularly advantageous to employ, as the 'New Chapter' indicates, 'conventional weapons with a capacity for precision and penetration so as to minimise incidental damage'. These weapons and 'more specialised capabilities' could in principle enable Britain and its allies to remove enemy regimes from power, close down terrorist organizations and bring specific individuals to justice. Those held personally responsible would include the attackers as well as their leaders. The demonstration of these capabilities might deter at least some adversaries. This deterrence logic has been one of the rationales for the US-led coalition intervention in Afghanistan since October 2001—to make clear the will of the United States, the United Kingdom, France and others to find and punish those responsible for terrorist atrocities.

The statement that 'our deterrent extends well beyond the military dimension to a response co-ordinated across Government' evidently refers to the government's efforts to achieve greater national resilience and thereby send a deterrent message. If the police, customs, immigration, public health and other government services are better prepared to deal with the consequences of terrorist attacks in a more cohesive and effective manner, this might send the message that the UK is a 'hard target'. This message might persuade some adversaries not to attack. Moreover, the efforts to establish this robust and coordinated state of readiness should place British authorities in a stronger position to deal with attacks by adversaries whom it may not be possible to deter. The involvement of virtually all government agencies, including ones previously viewed as having little to contribute to national security, illustrates how terrorists capable of large-scale attacks (even without using weapons of mass destruction) have brought a new meaning to the twentieth-century phrase 'total war'.[13]

[11] Ministry of Defence, *The Strategic Defence Review: A New Chapter*, p. 12.
[12] The interpretations of British declaratory policy are based on the author's interviews in London, July 2002 and July 2004.
[13] Cf. Raymond Aron, *The century of total war* (Boston: Beacon, 1959).

France

Like the United Kingdom, France has made a series of unilateral reductions in its nuclear posture during the past decade. It has eliminated air-deliverable gravity bombs and three types of ground-launched missiles. As a result, Paris now has two nuclear delivery systems: SLBMs, and ASMP (Air-Sol Moyenne Portée) air-launched missiles on ground and carrier-based aircraft. Unlike London and Washington, however, Paris has not offered any public indications of the numerical magnitude of its reductions, either recent or projected, in operationally available nuclear warheads.

In contrast with the British, the French have not emphasized the deterrent value of their conventional forces. Indeed, official French statements have over the years repeatedly questioned the reliability of 'conventional deterrence' on its own as a means of war prevention. For example, France's 1994 defence White Paper stated that the concept is

> based on the idea that certain sophisticated conventional technologies can confer radical superiority and allow for extreme reductions or even an elimination of the role of nuclear forces in defence. It is illusory and dangerous to claim that such technologies could have the effect of preventing war as nuclear weapons do. All the lessons of history argue against it … Far from substituting for nuclear deterrence, a so-called conventional deterrent could only complement it.[14]

The French have accordingly affirmed that they retain the right to employ nuclear weapons to defend their vital interests. For example, in April 1995 Alain Juppé, at that time foreign minister, articulated France's reservations concerning its negative security assurances in the NPT context:

> [S]ecurity assurances are compatible with our strategy of deterrence for three reasons. The first is that our strategy of deterrence has a strictly defensive character: France rejects the threat or use of nuclear weapons for aggressive purposes; our nuclear strategy is a strategy of non-war, based on nuclear capabilities limited to the strictly necessary level … Secondly, our declarations regarding security assurances naturally do not affect in any way our inalienable right to self-defence as defined by article 51 of the United Nations Charter … Finally … the French deterrent's purpose is the protection of our vital interests, whose definition is up to the President of the Republic. It is obvious that our deterrent covers any challenge to our vital interests, whatever the means and origin of the threat, including of course that of weapons of mass destruction produced and used despite the international prohibitions that concern them. No one can doubt … our will and our capability to inflict unacceptable damage on an adversary in such circumstances.[15]

In other words, if the French president decided that an adversary armed with chemical or biological weapons—or anything else, for that matter—had threatened France's vital interests, the negative security assurances would not apply.

[14] Ministère de la Défense, *Livre blanc sur la défense* (Paris: Service d'Information et de Relations Publiques des Armées, Feb. 1994), pp. 56–7.
[15] Communication du Ministre des Affaires Étrangères, M. Alain Juppé, à la Commission des Affaires Étrangères, de la Défense et des Forces Armées du Sénat, Paris, 6 April 1995.

While recent adjustments in British declarations about deterrence have evidently derived directly from reactions to the terrorist attacks of 11 September 2001, the French have not modified the new policies announced three months before those attacks. In his speech of 8 June 2001 President Jacques Chirac made public the results of decisions taken over a period of almost three years in a series of around ten secret meetings involving members of the Conseil de Défense, including the President and the Prime Minister.[16] According to Chirac,

> Deterrence must also enable us to deal with the threats to our vital interests that regional powers armed with weapons of mass destruction could pose. I mentioned a short while ago the development by certain states of ballistic missile capabilities that could one day give them the means to threaten European territory with nuclear, biological, or chemical weapons. If they had hostile intentions towards us, the leaders of these states must know that they would expose themselves to damage that would be absolutely unacceptable for them. *In this case, the choice would not be between the total annihilation of a country and doing nothing. The damage to which a possible aggressor would be exposed would be directed above all against his political, economic, and military power centers.* Naturally, nuclear weapons are essentially different, and people understand this. I assure you that France, while faithful to its concept of non-use [*non-emploi*], has and will retain the means to maintain the credibility of its [nuclear] deterrent in the face of all the new threats.[17]

Chirac's speech made clear an evolution in policy that had been under way for years. During the Cold War the French referred repeatedly to 'deterrence by the weak of the strong' (*la dissuasion du faible au fort*)—that is, France's ability to deter the Soviet Union by posing a threat of unacceptable damage, despite the asymmetry in French and Soviet capabilities. In post-Cold War circumstances, several French officials had indicated that France's nuclear deterrent could also prevent aggression against the country's vital interests by WMD proliferants—powers in relation to which France was not the 'weak' party. However, the French had often implied that the retaliatory threat could be of the same nature as that which had been directed against the Soviet Union—namely, strikes against cities (*des frappes anti-cités*).

Chirac's June 2001 speech revealed, as a French journalist put it, the government's decision to acquire 'more accurate, less powerful, and longer-range [nuclear] weapons, in order, as the President of the Republic explains, to reach "above all the political, economic, and military power centres of a possible aggressor". To be capable, for example, of destroying Saddam's bunker without completely destroying Baghdad.'[18] The move away from the 'anti-cities'

[16] The Conseil de Défense, a top-level decision-making body, is France's closest equivalent to the US National Security Council. It should be noted that Socialist leader Lionel Jospin served as prime minister from June 1997 to May 2002, and that the policy announced by Chirac in June 2001 was determined in concurrence with Jospin.

[17] Jacques Chirac, speech at the Institut des Hautes Études de Défense Nationale, 8 June 2001, available at www.elysee.fr; emphasis added.

[18] Jean-Dominique Merchet, 'Chirac menace les "États voyous" du feu nucléaire', *Libération*, 9 June 2001.

deterrence strategy to the acquisition of more precise and more discriminate strike options explains why Chirac said that 'the choice would not be between the total annihilation of a country and doing nothing'.

While the greatest innovation in French deterrence policy concerns dealing with WMD proliferants in regional crises, the original focus of that policy remains valid: that is, protecting the country from aggression by a major military power. In his June 2001 speech President Chirac said: 'Our [nuclear] deterrent guarantees, in the first place, that France's survival will never be placed into question by a major military power with hostile intentions and ready to employ all means to give them concrete expression. As long as considerable arsenals still exist or are being developed in diverse parts of the world, this guarantee remains fundamental for us.'[19]

In short, Chirac announced 'the modernization and adaptation' of the nuclear arsenal to enable French forces to strike a regional adversary's 'political, economic, and military power centres' in a comparatively discriminate fashion. While some critics have argued that such targets sound like cities, French officials clearly view the new policy as a step towards more limited and controllable nuclear employment options that may reinforce deterrence by informing adversaries that France has usable options beyond 'all or nothing'. Chirac restated, without using the traditional 'final warning' phrase, France's long-standing policy of being prepared to use nuclear weapons to signal its resolute willingness to defend its vital interests: '[O]ur concept of [nuclear] deterrence … does not exclude the capability of showing a possible adversary, when necessary, that our vital interests are at stake and that we are determined to safeguard them.'[20] France could deliver a 'final warning' strike against military targets with one or several sea- and/or air-launched missiles. However, Chirac reaffirmed in the same speech that France will remain 'faithful to its concept of non-use', an expression of confidence in the effectiveness and reliability of France's nuclear deterrence posture and a confirmation of France's rejection of nuclear 'war-fighting' concepts.

In November 2001 President Chirac declared that the terrorist attacks against the United States on 11 September had not undermined the credibility of France's deterrent posture, because it was (and remains) directed against states:

> These attacks have in no way, to be sure, affected the credibility of nuclear deterrence. It was never designed to work against individuals or terrorist groups. It is aimed at states. It is the ultimate guarantee of our independence and of our security in a world in which the number of countries possessing nuclear weapons is growing while biological and chemical weapons are proliferating.[21]

In November 2002 the chief of staff of the armed forces, General Henri Bentégeat, who served as President Chirac's military adviser during the

[19] Jacques Chirac, speech at the Institut des Hautes Études de Défense Nationale, 8 June 2001.
[20] Jacques Chirac, speech at the Institut des Hautes Études de Défense Nationale, 8 June 2001.
[21] Jacques Chirac, speech during the visit to the Marine Nationale, Toulon, 8 Nov. 2001, available at www.defense.gouv.fr/actualites/discours_pr/081101.htm.

formulation of the new nuclear deterrence strategy announced in the president's June 2001 speech, testified as follows:

The Americans judge that deterrence does not work with 'rogue states' that are considered irrational. However, the leaders of these states are sensitive to threats exerted against their centre of power. Our doctrine and our means have therefore been adapted. France must have the nuclear capabilities that forbid any sort of blackmail. The countries that would threaten its population and its vital interests must know that they would expose themselves to damage that would be unacceptable to them, that is, notably to their power centres. Deterrence has been adapted to remain credible within the enduring framework of a non-use policy. Nuclear weapons are not battlefield weapons for us. We have only acquired the means to oppose aggressors of a new type with a reliable and logical response.[22]

France's concept of non-use should not, then, be construed as signifying a policy of 'no use' or 'no first use'. The French are fully prepared to conduct nuclear operations, if necessary. In June 2003 General Bentégeat referred both to France's 'doctrine of non-use of nuclear weapons' and to its ability 'to deliver nuclear weapons, in the event of a failure of deterrence, rapidly and with a maximum of autonomy of action'.[23] Indeed, Bentégeat confirmed that France's threat of nuclear retaliation applies to enemies armed with chemical and biological weapons as well as to nuclear powers:

If a dictator in a 'rogue' state understands that any attack on a French city with chemical or biological weapons would lead instantly to the destruction of his power centres and military capacity, he will desist … France's deterrent has the precision and diversity tailored to meet any degree of threat … We don't intend to develop battlefield weapons as the *force de frappe* is a political deterrent; instead, we rely on a diversified payload that can spare an adversary's population and cities.[24]

In February 2004 France's defence minister, Michèle Alliot-Marie, affirmed the continued relevance of the deterrence doctrine announced by Chirac in June 2001 while noting that 'there may be adaptations in the weapons' to make clear France's willingness to use them:

I would like to make clear … that no new deterrence doctrine is under consideration … The fundamental principles … remain unchanged … The nuclear weapon is a political weapon of a different nature and not intended for battle. It was, moreover, out of respect for these principles that we rejected the option of a miniaturized weapon. The development of such a weapon would in fact raise the question of the evolution of our doctrine towards use [*emploi*], which we reject … But the moment we are in the framework of deterrence, this deterrence must be effective. Those facing us must not be able to think that the effects of our weapons on their populations would be such that we would hesitate to use them. Therefore we retain totally the same doctrine and the

[22] Audition du Général Henri Bentégeat, chef d'état-major des armées, sur le projet de loi relatif à la programmation militaire pour les années 2003 à 2008 (no. 187), Commission de la Défense Nationale et des Forces Armées, Compte Rendu no. 19, 13 Nov. 2002, available at www.assemblee-nat.fr/12/cr-cdef/02–03/c020319.asp.

[23] General Henri Bentégeat, 'Stratégie militaire française', *Défense Nationale*, June 2003, pp. 34–5.

[24] General Henri Bentégeat, interview in *Jane's Defence Weekly*, 4 June 2003.

same concepts, but to make them effective, there may be adaptations in the weapons. That is what we are doing.[25]

Despite their long-standing reservations about the notion of 'conventional deterrence', the French have sometimes asserted that their will and capability to undertake pre-emptive action in certain circumstances might deter some aggressors, including terrorists. According to a recent and authoritative expression of French security policy, the military programme law for 2003–8:

> Outside our frontiers, in the framework of prevention and power-projection, we must therefore be able to identify and guard against threats as soon as possible. In this framework, the possibility of a pre-emptive action could be considered, as soon as a situation of explicit and known threat was recognized. *This determination and the improvement of capabilities for long-range strikes should constitute a deterrent threat for our potential aggressors*, all the more so because transnational terrorist networks are being organized and prepared for action most often outside our territory, in zones not controlled by states, or even with the support of enemy states.[26]

United States

The definition of deterrence in the September 2001 Quadrennial Defense Review was at first glance familiar. That is, to deter is 'to discourage aggression or any form of coercion' by threatening to employ US military capabilities.[27] However, the QDR emphasized that the Cold War's dominant form of deterrence—deterrence by threat of punishment—would be supplemented with deterrence by denial, a concept repeatedly discussed in the United States since the late 1950s.[28] Deterrence by denial means persuading the enemy not to attack by convincing him that his attack will be defeated—in other words, that he will not be able to achieve his operational objectives. For example, the QDR employed the phrase 'deterrence by denial' in its discussion of missile defences: 'Integrating missile defenses with other defensive as well as offensive means will safeguard the Nation's freedom of action, enhance deterrence by denial, and mitigate the effects of attack if deterrence fails.'[29] The phrase 'if deterrence fails' could therefore be construed as meaning 'if both types of deterrence—the threat of punishment and the threat of operational defeat—fail'.

[25] Michèle Alliot-Marie, allocution devant la 56ième session nationale de l'Institut des Hautes Études de Défense Nationale, 2 Feb. 2004, available at www.defense.gouv.fr/actualites/communiques/2004/d030204/030204.htm.

[26] Loi no. 2003-73 du 27 janvier 2003 relative à la programmation militaire pour les années 2003 à 2008, section 2.3.1., 'Les fonctions stratégiques', available at www.legifrance.gouv.fr; emphasis added.

[27] *Quadrennial Defense Review Report* (Washington DC: US Department of Defense, 30 Sept. 2001), p. 12.

[28] The distinction between deterrence by denial and deterrence by threat of punishment is usually attributed to Glenn H. Snyder. See Glenn H. Snyder, *Deterrence by denial and punishment*, research monograph no. 1 (Princeton, NJ: Center of International Studies, Woodrow Wilson School of Public and International Affairs, Princeton University, Jan. 1959), and *Deterrence and defense: toward a theory of national security* (Princeton, NJ: Princeton University Press, 1961). The concept of deterrence by denial was evident in various US policies during the Cold War, including the Kennedy administration's 'flexible response' strategy and the Carter administration's 'countervailing strategy'.

[29] *Quadrennial Defense Review Report*, p. 42.

The QDR also distinguished between dissuasion and deterrence. According to the report, 'dissuasion' means persuading other powers to refrain from even initiating an 'arms race' or competition in military capabilities with the United States. If that goal cannot be achieved, the QDR suggested, US investments and activities might nonetheless 'channel' an adversary's behaviour and 'complicate' its planning, and thereby shape the competition.

> Through its strategy and actions, the United States influences the nature of future military competitions, channels threats in certain directions, and complicates military planning for potential adversaries in the future. Well targeted strategy and policy can therefore dissuade other countries from initiating future military competitions. The United States can exert such influence through the conduct of its research, development, test, and demonstration programs. It can do so by maintaining or enhancing advantages in key areas of military capability.[30]

Dissuasion is related to deterrence by denial, in that US superiority in a specific type of combat capability might appear unchallengeable to an adversary, who might then choose not simply to refrain from aggression but also to forgo competing in that domain. However, dissuasion in the 2001 QDR sense is distinct from deterrence. Dissuasion in the 2001 QDR (and in the 2001 Nuclear Posture Review (NPR) and other recent US policy statements) means persuading others not to acquire specific military capabilities, whereas deterrence means convincing others that they should not employ capabilities they already possess—a task in principle easier than compellance or coercion, but nonetheless difficult, with no guarantee of success.

In the 2001 QDR, the 2001 NPR and associated policy statements the United States has articulated a concept of deterrence in which missile defences, other defensive means and non-nuclear strike capabilities are intended to supplement and, to the maximum extent possible, substitute for nuclear forces. These non-nuclear capabilities are to be acquired at the same time as operationally deployed US strategic nuclear warheads are reduced by almost two-thirds over the decade ending in 2012.

The 'New Triad' under the NPR consists of the following three legs: (a) strike capabilities, nuclear and non-nuclear; (b) defenses, active and passive; and (c) a responsive infrastructure. According to Douglas Feith, the under-secretary of defense for policy,

> The New Triad … provides the basis for shifting some of the strategic requirements for dissuading, deterring, and defeating aggression from nuclear forces to non-nuclear strike capabilities, defensive systems, and a responsive infrastructure … Getting to the New Triad will require us to sustain a smaller strategic nuclear force, reinvigorate our defense infrastructure, and develop new non-nuclear strike, command and control, intelligence, and planning capabilities … By taking these steps, we will reduce our dependence on nuclear weapons.[31]

[30] *Quadrennial Defense Review Report*, p. 12.
[31] Douglas J. Feith, under-secretary of defense for policy, prepared statement for the hearing on the Nuclear Posture Review, Senate Armed Services Committee, 14 Feb. 2002, p. 5.

The NPR concept of 'non-nuclear' strike forces encompasses not only special operations capabilities and 'kinetic' systems such as missiles with high-explosive munitions, but also 'non-kinetic' capabilities such as information operations assets capable of electronic or computer network attacks.[32]

The United States has not, however, abandoned nuclear threats. Indeed, official statements have made clear the US government's position that the negative security assurances extended by the United States since 1978 to non-nuclear-weapon states party to the NPT, reaffirmed at recent NPT extension conferences, would not constitute an obstacle to retaliating with nuclear forces in response to an adversary's employment of chemical or biological weapons. In April 1996 Secretary of Defense William Perry said that 'if some nation were to … attack the United States with chemical weapons, then they would have to fear the consequences of a response from any weapon in our inventory … In every situation that I have seen so far, nuclear weapons would not be required for response. That is, we could make a devastating response without the use of nuclear weapons, but we would not forswear that possibility.'[33] In December 1997 Robert Bell, then the senior director for defense policy at the National Security Council, said that the president's directive the previous month on nuclear weapons policy reflected 'much greater sensitivity to the threats' posed by chemical and biological arms and that 'if any nation uses weapons of mass destruction against the United States, it may "forfeit" its protection from US nuclear attack under the 1995 pledge'.[34] This refusal to rule out a nuclear response to a chemical or biological weapons attack was repeated by the Bush administration in 2002: 'The United States will continue to make clear that it reserves the right to respond with overwhelming force—including through resort to all of our options—to the use of WMD against the United States, our forces abroad, and friends and allies.'[35]

Under the Bush administration, the United States has emphasized improved relations with Russia as a major rationale for its reductions in operationally deployed strategic nuclear warheads. The administration has nonetheless retained a 'responsive' reserve of non-deployed nuclear warheads that could be 'uploaded' to respond to adverse changes in the international security environment and/or systemic technical failure. According to Douglas Feith, although 'the NPR's responsive force is not being sized according to the dictates of a possible resurgence in the threat from Russia', the United States cannot 'ignore

[32] For background, see David S. Yost, 'The US Nuclear Posture Review and the NATO allies', *International Affairs* 80: 4, July 2004, pp. 705–29.

[33] Secretary of Defense William Perry, remarks at the Air War College Conference on Nuclear Proliferation Issues, Maxwell Air Force Base, Alabama, 26 April 1996, text furnished by the Department of Defense. The authoritative quality of Perry's formulation of US policy was underscored by its repetition in subsequent official statements—for instance, the report *Proliferation: threat and response* (Washington DC: Office of the Secretary of Defense, Nov. 1997), p. 35.

[34] Robert Bell, quoted in indirect discourse in R. Jeffrey Smith, 'Clinton directive changes strategy on nuclear arms; centering on deterrence, officials drop terms for long atomic war', *Washington Post*, 7 Dec. 1997, p. A1.

[35] *National Strategy to Combat Weapons of Mass Destruction* (Washington DC: The White House, Dec. 2002), p. 3.

developments in Russia's (or any other nation's) nuclear arsenal'. The NPR provides for 'the ability to restore capabilities we now plan to reduce' to deal with potential changes in international circumstances, including the risk recognized by the Clinton administration that 'Russia might reverse its course towards democracy'.[36] The Bush administration has, however, taken steps to reduce the US 'responsive capability' significantly. In June 2004 the National Nuclear Security Administration announced that by 2012 the stockpile will be cut 'almost in half' and will be 'the smallest … in several decades'—thus much smaller than that maintained by the Clinton administration.[37]

The Bush administration's attention to missile defences has carried forward an established consensus in the mainstream of American policy. According to the National Missile Defense Act of 1999, 'It is the policy of the United States to deploy as soon as is technologically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack (whether accidental, unauthorized, or deliberate) with funding subject to the annual authorization of appropriations and the annual appropriation of funds for National Missile Defense.'[38] However, the Bush administration has abandoned the distinction between National Missile Defence (NMD) and Theatre Missile Defence (TMD) in favour of simply 'missile defence', and has pursued missile defence cooperation with allies in NATO and elsewhere.

Missile defences are expected to contribute to deterrence and to offer a hedge against deterrence failure. Douglas Feith has suggested that they could take over from offensive strike forces the potential function of limiting damage to the United States by pre-emptively destroying an enemy's offensive arms: 'For example, during the Cold War, one of the President's only options to limit damage to the United States was to strike the enemy's offensive weapons, raising the stakes in any confrontation. Defenses will offer the ability to limit damage to the United States without requiring America to "fire the first shot."'[39] In an implicit reference to the 'deterrence by denial' approach, J. D. Crouch, then assistant secretary of defense for international security policy, suggested that the United States might employ 'defenses to discourage attack by frustrating enemy attack plans'.[40]

One of several innovations in the 2001 Nuclear Posture Review was to make 'responsive infrastructure' a leg of the New Triad. The 2002 Annual Report of the Department of Defense stated that this 'includes the research facilities,

[36] Douglas J. Feith, under-secretary of defense for policy, prepared statement for the hearing on the Nuclear Posture Review, Senate Armed Services Committee, 14 Feb. 2002, pp. 6, 9.
[37] Linton Brooks, administrator, National Nuclear Security Administration, quoted in Matthew L. Wald, 'US to make deep cuts in stockpile of A-arms', *New York Times*, 4 June 2004.
[38] National Missile Defense Act of 1999, 6 Jan. 1999, s. 2.
[39] Douglas J. Feith, under-secretary of defense for policy, prepared statement for the hearing on the Nuclear Posture Review, Senate Armed Services Committee, 14 Feb. 2002, p. 7.
[40] J. D. Crouch, assistant secretary of defense for international security policy, at the special briefing on the Nuclear Posture Review, available at http://www.defenselink.mil/news/Jan2002/t01092002_t0109npr.html, p. 4 of transcript.

manufacturing capacity, and skilled personnel needed to produce, sustain, and modernize the elements of the New Triad'.[41] In February 2002 General John Gordon of the Department of Energy explained its role in dissuasion and deterrence as follows: 'A future competitor seeking to gain some nuclear advantage would be forced to conclude that its buildup could not occur more quickly than the US could respond.'[42] Given the broad scope of the New Triad, the same principle would presumably apply to adversaries seeking non-nuclear military advantages.

Some comparisons

Some similarities in the deterrence postures and policies of these three countries stand out. As befits nations with extensive foreign commitments and expeditionary military postures in a period of post-Cold War fluidity, each is still concerned to some degree with being able to deter major power threats; but each has adopted a declaratory policy on detargeting its nuclear forces.[43] The three western nuclear powers have in recent years been more preoccupied with threats from regional powers armed with WMD than with potential major power threats. Owing to the empowerment of terrorist groups by new technologies and the fragility of complex modern societies, these three countries (and other western governments) have in recent years also given unprecedented attention to whether and how it might be possible to deter terrorists.

Each of the three western nuclear powers has substantially reduced its deployed nuclear forces and sharply cut back its range of delivery systems since the end of the Cold War in 1989–91. Each has manifested greater interest in non-nuclear capabilities for deterrence. Each has attached increasing importance to missile defences, although Britain and France have been interested mainly in the protection of deployed forces rather than of national population and territory. Each has significantly qualified the negative security assurances offered in the NPT context; and each has attempted, with varying degrees of clarity, to define options for limited nuclear use. While each has more or less explicitly retained an option of pre-emptive action, none has indicated that it might use nuclear weapons pre-emptively against WMD-armed regional powers. All three have articulated their nuclear employment threats within a framework of retaliation that is intended to promote deterrence.

[41] Donald H. Rumsfeld, secretary of defense, *Annual Report to the President and the Congress 2002* (Washington DC: Government Printing Office, 2002), p. 87.

[42] John A. Gordon, under-secretary for nuclear security and administrator of the National Nuclear Security Administration, Department of Energy, prepared statement for the hearing on the Nuclear Posture Review, Senate Armed Services Committee, 14 Feb. 2002, p. 3.

[43] On 26 September 1997 President Jacques Chirac announced that, given the dismantlement of the IRBMs on the Plateau d'Albion, 'none of the nuclear means of the French deterrent force is henceforth targeted'. This brought French declaratory policy into line with that adopted by Britain, Russia and the United States in 1994. On 1 May 2000, at the NPT Review Conference, China, France, Russia, the UK and the United States made the following statement: 'Emphasising the essential importance of cooperation, demonstrating and advancing mutual trust among ourselves, and promoting greater international security and stability, we declare that none of our nuclear weapons are targeted at any State.'

These similarities deserve closer analysis, as do some significant differences.

While each of the three states has eliminated the nuclear role of various types of delivery systems, this has not resulted in similar force structures. France has abandoned gravity bombs and three types of ground-launched missiles (the Pluton, the Hadès and the IRBMs (Intermediate Range Ballistic Missiles) on the Plateau d'Albion); and Paris now relies on SLBMs and air-launched ASMP missiles based on the aircraft carrier *Charles de Gaulle* as well as on land. (Of the three western nuclear powers, France alone today has nuclear weapons deployed with its surface fleet.) The United States, having in the early 1990s done away with all the army's nuclear systems (artillery and missiles) and all the navy's surface fleet nuclear systems (including nuclear weapons for carrier aircraft and anti-submarine warfare), in the 2001 NPR set out to reduce operationally deployed strategic nuclear warheads by almost two-thirds by 2012. At the same time, Washington intends to retain most of the delivery platforms, partly because some of them (bombers) have important non-nuclear roles and partly as a hedge against political and technical uncertainties.[44] Owing in part to its global responsibilities, including extended deterrence commitments to security partners in Asia and the Middle East, the United States maintains much larger nuclear forces than does Britain or France. In the 'non-strategic' nuclear weapons category, the United States retains in reserve storage in the US warheads for Tomahawk cruise missiles that could be deployed on US attack submarines, as well as weapons in Europe and the United States that could be delivered by US dual-capable F-16 and F-15E aircraft or nuclear-certified NATO F-16 and Tornado aircraft. The United Kingdom gave up all its air-delivered and surface fleet nuclear weapons in the 1990s and, with the elimination of the US army's nuclear artillery and missiles, its ground force delivery responsibilities. Since 1998 London has relied solely on Trident SLBMs, some of which could be employed in a 'sub-strategic' mode. The three countries nonetheless all maintain a posture the British call 'continuous at sea deterrence', with at least one SSBN (nuclear submarine) always on patrol.[45]

The three states also differ substantially in their policies regarding nuclear testing. Britain and France have ratified the Comprehensive Test Ban Treaty (CTBT) and have made clear their intention to rely on simulations in the future. The US Senate refused to approve the ratification of the CTBT in October

[44] The NPR called for the removal of some delivery platforms from each leg of the old triad, with B-1 bombers dedicated exclusively to non-nuclear roles, the MX/Peacekeeper ICBM force decommissioned and 4 SSBNs converted to cruise missile carriers. The United States may also convert some strategic ballistic missiles into delivery systems for non-nuclear payloads. 'The two advanced conventional strike applications include a fast-response, precision-impact, conventional penetrator for hard and deeply buried targets and the modification of a strategic ballistic missile system to enable the deployment of a non-nuclear payload': Douglas J. Feith, under-secretary of defense for policy, prepared statement for the hearing on the Nuclear Posture Review, Senate Armed Services Committee, 14 Feb. 2002, p. 10.

[45] The United States plans to deploy 14 SSBNs under the NPR. Since 'approximately two-thirds' of the SSBN force is 'at sea at any one time', it may be inferred that Washington normally maintains around 9 SSBNs at sea. See Admiral Richard W. Mies, USN, commander in chief, US Strategic Command, prepared statement before the Senate Armed Services Committee, 11 July 2001, p. 6, available at http://armed-services.senate.gov/statemnt/2001/010711mies.pdf.

1999, and the Bush administration has not submitted it to the Senate for reconsideration. Instead, the administration has maintained the test moratorium in place since 1992 and has undertaken efforts to improve nuclear testing preparations, so that tests could be conducted more promptly in the event of a decision to resume them. From the US administration's perspective, enhanced test readiness constitutes a hedge against possible requirements to test in order to remedy safety and reliability problems in existing weapons or to develop new warhead designs.

Since the mid-1980s the United States has made much greater investments in missile defences than Britain and France. The British have been cautious about spending even on TMD for projected forces, much less missile defence for homeland protection. A public discussion paper issued by the Ministry of Defence in December 2002 referred to the 'need to appraise active theatre missile defence against other means of protecting deployed forces', such as passive defences and 'appropriate tactics, training and procedures'. The statement that 'the most efficient approach to theatre missile defence for coalition forces … may involve a degree of role specialisation' suggested that London might choose to rely on TMD capabilities provided by the United States and/or other allies.[46]

In June 2001 Chirac announced that he had directed French authorities to study 'the possibility of equipping our forces, within a period corresponding to the emergence of new ballistic missile threats, with a defence capability against theatre missiles'.[47] According to French observers, in supporting missile defences for deployed forces overseas Chirac was deliberately vague as to whether these forces would also be protected by the nuclear deterrent as part of France's 'vital interests'. Despite the reference in Chirac's speech to 'European territory' as the possible target of WMD proliferants that could provoke French nuclear retaliation, France's military forces deployed outside Europe could also be covered among the country's 'vital interests', because the definition of these interests depends on the president.[48] It should nonetheless be noted, as Thérèse Delpech has pointed out, that missile defence protection for forces deployed overseas will be 'increasingly necessary' in that the legitimacy of relying on nuclear deterrence alone for this purpose will 'be contested because vital interests will not be clearly at stake'.[49]

Neither Britain nor France welcomed the Bush administration's plan to withdraw from the ABM (Anti-Ballistic Missile) Treaty, a withdrawal formally announced in December 2001, with effect in June 2002; but Paris was more publicly explicit than London in expressing reservations. In June 2001 the French government continued to hold, in Chirac's words, that pursuing strategic missile defences outside ABM Treaty constraints 'would open the way to new uncontrolled competitions'.[50] Some French observers even reaffirmed the

[46] *Missile defence: a public discussion paper* (London: Ministry of Defence, Dec. 2002), p. 29, para. 85.
[47] Jacques Chirac, speech at the Institut des Hautes Études de Défense Nationale, 8 June 2001.
[48] Author's interviews in Paris, June–July 2001, March 2002 and June–July 2002.
[49] Thérèse Delpech, 'Le deuxième âge nucléaire?' *Le Figaro*, 8 June 2001.
[50] Jacques Chirac, speech at the Institut des Hautes Études de Défense Nationale, 8 June 2001.

traditional French doctrine that missile defences for the protection of national territory and population would be unaffordable and tend to weaken the credibility of retaliatory deterrence, in that such defences would imply that threats of nuclear retaliation might fail to deter. London has granted permission for an upgrade to the Fylingdales early warning radar to enable it to function as part of the US missile defence programme. It also intends to pursue a programme of cooperative studies with the United States on various technical issues related to missile defence.

In the event, US withdrawal from the ABM Treaty took effect in mid-2002 without leading to any US–Russian confrontation or, to use Chirac's phrase, 'new uncontrolled competitions'. Indeed, Russia and the United States agreed in the May 2002 Moscow Treaty on extensive reductions in their operationally deployed strategic nuclear forces. Moreover, Washington and Moscow (and NATO and Russia) agreed in the same month to initiate or carry forward a wide array of collaborative activities, including dialogue and cooperation on missile defence. At the same time, missile proliferation trends have underscored the potential utility of missile defences for the protection of national homelands. These circumstances may have contributed to France's support for NATO's decision of November 2002 to conduct 'a new NATO Missile Defence feasibility study to examine options for protecting Alliance territory, forces and population centres against the full range of missile threats'.[51]

In French expert circles, however, scepticism about strategic missile defences persists, owing in part to their cost and uncertainties about their operational effectiveness, and in part to a conviction that the probability of a failure of nuclear deterrence is quite low. In June 2003 General Henri Bentégeat said: 'The only true response to an emerging nuclear threat from "rogue" states is the nuclear deterrent, for the simple reason that nobody can count on an anti-missile defence system—which is just as costly to build as a nuclear arsenal—being 100% effective.'[52] According to an analysis by Bruno Tertrais, a former French Ministry of Defence official,

> It is a question in this regard of adapting the deterrent threat to the stakes of the conflict, which would not be our national survival in dealing with a regional power. It is therefore no longer possible to sum up the French concept with the idea of an anti-cities deterrence, an expression which moreover had long ago disappeared from our public language … While conventional forces contributed, in the Cold War scenario, to avoiding the 'circumvention' of deterrence, henceforth the reverse may be true: in external operations, in regional crises, nuclear deterrence will guarantee the freedom of action of the political authorities by enabling France to avoid being subjected to blackmail placing its vital interests at risk.[53]

[51] North Atlantic Council, Prague summit declaration, 21 Nov. 2002, para. 4g.
[52] General Henri Bentégeat, interview in *Jane's Defence Weekly*, 4 June 2003.
[53] Bruno Tertrais, 'Dissuasion nucléaire: Une doctrine adaptée au contexte stratégique', *Armées d'Aujourd'hui*, no. 262, July–Aug. 2001, p. 65.

The contrast between US and French choices in this regard is noteworthy. The United States is seeking strategic missile defences to gain, in Tertrais's words with regard to France, 'in external operations, in regional crises … the freedom of action of the political authorities … to avoid being subjected to blackmail'. As noted above, missile defences might enhance America's ability to deter regional adversaries, but the ability to defeat their attacks could also reduce the risk that Washington could be deterred from taking action against them. Instead of seeking strategic missile defences to gain freedom of action against WMD proliferants in regional conflicts, the French have emphasized a redefined and more precise nuclear retaliatory threat as the source of their freedom of action.

These three powers also differ to some degree in how they define deterrence, and what place they assign it among other national security objectives. While they agree on the basic principle of deterrence by threat of punishment, British and French experts have long expressed scepticism about what Americans call deterrence by denial. The British consider this to be simply part of a country's defences and resilience—the ability to continue operations and recover from attacks—but agree that active defences may play a part in persuading an adversary not to attack in the first place.

The British and French have no equivalent to the US concept of dissuasion, in the sense of persuading actual or potential adversaries not to compete in the acquisition of specific types of military capability through unchallengeable superiority.[54] However, London and Paris have each articulated a goal of prevention. In December 2003 the British Ministry of Defence defined its 'prevent' goal as 'To stop or limit the emergence and development of crisis and conflict through fostering regional and national security'. The methods to be employed in pursuit of this goal include non-proliferation regimes, 'security sector reform' and addressing 'the underlying causes of instability', but not military superiority. Rather than adopt the US concept of dissuasion, the British Defence Ministry used the verb 'dissuade' to define its 'deter' goal: 'To dissuade an adversary from a course of action that he would otherwise embark upon, by diminishing his expected gains and/or raising his expected costs.'[55] From an American perspective, the capacity to increase costs amounts to threatening punishment, while the ability to diminish gains could promote both dissuasion and deterrence by denial.

The French use the word *dissuasion* to mean deterrence, and must therefore employ formulas such as *la dissuasion de l'acquisition des capacités militaires* in an effort to describe the concept set forth in the 2001 US QDR. In contrast with the British and the Americans, the French have long attempted to reserve the concept of deterrence to threats of nuclear punishment. However, as noted

[54] As one British observer put it, such aspirations would not be 'realistic' for the United Kingdom: 'Only the US has that level of superiority.' Author's interview in London, 2 July 2002.

[55] *Delivering security in a changing world: supporting essays*, Cm 6041-II (London: Ministry of Defence, Dec. 2003), p. 6.

above, in January 2003 an official French policy statement indicated that France's determination and capabilities to undertake pre-emptive conventional military action 'should constitute a deterrent threat for our potential aggressors'.[56] The French concept of 'prevention' includes vigilant preparedness for such action, and relies on 'defence diplomacy', promptly responsive and prepositioned forces, and intelligence and surveillance capabilities. 'Prevention constitutes … a permanent necessity against the reappearance of major threats, direct or indirect, the development of crisis situations or conflicts likely to involve our security and interests and those of our partners in the European Union and the Atlantic Alliance.'[57]

Unanswered questions

Despite the differences in their approaches and circumstances, the three western nuclear powers are all grappling with tough and, to some extent, unanswered questions: What threat will deter? To what extent have the grounds for confidence in deterrence been diminished? To what extent has it been prudent to scale back deployed nuclear capabilities and redefine threats of nuclear retaliation? To what extent would limited nuclear options enhance deterrence and simplify nuclear employment decisions? What level of confidence should be placed in the full array of deterrence and containment measures? To what extent is deterrence national policy, and to what extent is it alliance policy?

What threat will deter?

There are, to be sure, no guarantees that any deterrent posture will in fact deter. Deterrence involves probabilities, and cannot exclude risks of failure. With deterrence by threat of punishment, the question remains: How can one deter if it is not clear what enemy assets to hold at risk? This question has not yet been satisfactorily answered with regard to non-state actors such as terrorist organizations (including those with state sponsors), or with regard to regional power leaders in extreme circumstances.

It is also difficult to know what might deter because crisis situations involve more than a generic target of influence, a 'deterree' passively subject to the unilateral threats of a deterring power. Those to be deterred may differ considerably in their values, rationality and willingness to accept risks and punishment. Moreover, the threats will probably be bilateral, even between powers with radically asymmetrical capabilities, with both parties attempting to exert threats of punishment or of political or operational setbacks. In practice, it may well be a rapidly evolving multilateral situation. Threats that might deter

[56] Loi no. 2003-73 du 27 janvier 2003 relative à la programmation militaire pour les années 2003 à 2008, s. 2.3.1., 'Les fonctions stratégiques', available at www.legifrance.gouv.fr.
[57] Loi no. 2003-73 du 27 janvier 2003 relative à la programmation militaire pour les années 2003 à 2008, s. 2.3.1., 'Les fonctions stratégiques', available at www.legifrance.gouv.fr.

effectively for a while may suddenly become less persuasive to desperate, poorly informed and/or determined adversaries in the light of domestic and/or international events.

Given uncertainty about (a) what might deter (and hence what to threaten or hold at risk) in a dynamic context and even (b) whom to try to deter, governments may be inclined to rely on a capabilities-based deterrent posture. That is, governments may seek a repertoire of capabilities adaptable to multiple tasks. By sending a message that they have a diverse set of arrows in their quivers, they might be able to compensate for uncertainty, at least to some degree. How can they send this message? How can governments effectively communicate their intentions to potential adversaries?

It is probable that many prospective adversaries lack a sophisticated understanding of western deterrence policies, and have not followed closely or seized the nuances of the adjustments in declaratory policy articulated over the years by London, Paris, and Washington. Moreover, it is widely conceded that the western 'deterrers' have a poor understanding of the motivations and decision-making of the governments and organizations they would hope to influence.

While Britain's 1998 SDR took a traditional state-centric approach to deterrence, the 2002 'New Chapter' emphasized the element of personal accountability. Similarly, in February 2003, shortly before the US-led intervention in Iraq, Secretary of State Colin Powell and other US officials warned that any Iraqi military commanders or political leaders involved in WMD use would be held personally responsible. Is the threat of tracking down and holding specific perpetrators accountable persuasive? To the extent that it is not successfully implemented, it may lack credibility. The fact that Osama bin Laden and other prominent Al-Qaeda leaders remain at large, despite the huge investment of US and coalition resources, tends to undermine the plausibility of the threat. However, the fact that some Al-Qaeda leaders have been captured in the continuing man-hunt lends the threat some force. Whether that credibility will be sufficient to deter in all cases in the face of locally exerted countervailing 'personal accountability' threats and incentives is doubtful.

With both types of deterrence highlighted in US discussions, deterrence by denial and by threat of punishment, the problems of evidence and interpretation in the analysis of specific historical cases are immense. Unless a party that has been the object of deterrence efforts has honestly revealed his decision-making calculus in specific circumstances, it is impossible to know conclusively why he (or a leadership group) has not undertaken acts of aggression or coercion.

Examples of successful deterrence by denial appear to be even scarcer and more debatable than putative examples of deterrence by threat of punishment. One recent example, however, might be America's apparent success in deterring Iraq from re-invading Kuwait in October 1994. According to the commander-in-chief of US Central Command at that time,

At the onset of the crisis US CENTCOM relied on forward-deployed Navy and Air Force units, Marines, special operations forces and Patriot missile batteries along with regional and allied forces to make clear our resolve to defend against Iraqi aggression. Within days these forces were joined by the aircraft carrier USS *George Washington*, additional cruise missile ships, reinforcing Air Force squadrons and two Army brigades … This vivid demonstration of American military capability and resolve in the face of a very real Iraqi threat forced Saddam Hussein to back down and defused the crisis.[58]

It is plausible that the prepositioned and rapidly reinforced US military capabilities helped to convince Saddam Hussein that he could not then reverse the defeat his forces had suffered in 1991; and that he therefore chose not to undertake the attack that his forces were poised to carry out. It is also possible, however, that he was merely testing US resolve, and did not in fact intend to attack Kuwait again.

As this example suggests, the theory of deterrence by denial is closely allied to an operational perspective. It applies to any capability that can deny an enemy success in achieving his objectives. For example, passive defences such as decontamination equipment and suits and gas masks for protection against chemical and biological weapons might help to persuade an enemy not to use such weapons. Even if they failed to achieve this deterrence effect, such capabilities could well be operationally useful. Similarly, while missile defences might fail to deter missile attacks, they could make intervention against WMD proliferants armed with ballistic missiles operationally safer and politically less risky. Moreover, circumstantial evidence suggests that non-state adversaries such as terrorist organizations are less likely to attack in situations in which they perceive a high risk of failure, owing (for example) to increased security measures at specific sites. Such evidence implies that deterrence by denial measures could usefully complement threats of punishment, including those emphasizing the personal accountability of state and non-state attackers.

To what extent have the grounds for confidence in deterrence been diminished?

Official US doubts about the reliability of deterrence based on threats of retaliatory punishment preceded the Bush administration. Such doubts furnished part of the rationale for what the Clinton administration called National Missile Defense (NMD). As Secretary of Defense William Cohen explained in February 1999,

[W]e right now have a deterrent against any Russian attack … The real issue comes up with: how do you deal with a country like a North Korea or potentially a Saddam Hussein who was well on his way to developing an ICBM capability with also a nuclear warhead?

[58] Prepared statement of General J. H. Binford Peay III, US Army, commander-in-chief, US Central Command, before the Senate Armed Services Committee, 14 Feb. 1995, available at www.defenselink.mil/speeches/1995/t19950214-peay.html. For a case study, see W. Eric Herr, *Operation Vigilant Warrior: conventional deterrence theory, doctrine, and practice*, School of Advanced Airpower Studies, Air University, Maxwell Air Force Base, Alabama, June 1996.

So under those circumstances, would someone like that ignore the deterrent value that we have in terms of the retaliatory capability, and nonetheless launch one into downtown Washington or New York or whatever other city is involved? That's where the NMD program comes into play. That's what we need the protection against, if the technology matures to that extent.[59]

The September 2002 US National Security Strategy was therefore not breaking new ground when it contrasted the leaders of regional powers to those of the Soviet Union:

In the Cold War, especially following the Cuban missile crisis, we faced a generally status quo, risk-averse adversary. Deterrence was an effective defense. But deterrence based only upon the threat of retaliation is less likely to work against leaders of rogue states more willing to take risks, gambling with the lives of their people, and the wealth of their nations.[60]

The British Ministry of Defence published a similar assessment of the comparative reasonableness of Soviet leaders in December 2002:

We must … take very seriously the danger that deterrence will be less effective against new owners of these awesome capabilities [long-range missiles and weapons of mass destruction] who may not subscribe to international norms of behaviour and may be willing to take greater risks than were the leaders of the Soviet Union. Some clearly view weapons of mass destruction in a very different light, and indeed have in at least one case already demonstrated a willingness to use these weapons indiscriminately. Without the means for such a state to pose a credible conventional threat, such weapons could become not a last resort but potential weapons of choice. They may also be seen as a short cut to regional pre-eminence and, potentially, as a way of deterring intervention by the international community.[61]

Rather than expressing a certain semi-nostalgia for a readily deterrable Soviet adversary, French officials such as General Bentégeat have insisted, as noted above, that WMD-armed regional powers can be deterred with an adapted military posture. At the same time, however, official French statements have acknowledged that new and implicitly less deterrable adversaries have emerged since the terrorist attacks in September 2001:

These attacks opened the way to conflicts of a new type, without a clearly identified battlefield and army, in which the adversary, ready to use weapons of mass destruction, is clearly aiming at populations … Strategies having recourse to asymmetrical threats, conducted by state or non-state actors, may threaten the national territory as well as forces in operations.[62]

[59] Secretary of Defense William Cohen, testimony on the FY2000 Department of Defense Authorization Request, Senate Armed Services Committee, 3 Feb. 1999, Federal News Service transcript, p. 42.
[60] *The National Security Strategy of the United States of America* (Washington DC: The White House, Sept. 2002), p. 15.
[61] *Missile defence: a public discussion paper*, pp. 24–5, para. 68.
[62] Loi no. 2003-73 du 27 janvier 2003 relative à la programmation militaire pour les années 2003 à 2008, s. 1.1, 'Des menaces qui touchent directement les Français', and s. 1.2, 'Un monde durablement imprévisible', available at www.legifrance.gouv.fr.

The official reference to such threats from 'state or non-state actors' implies that even the French concede that some adversaries may be, to use Douglas Feith's expression, 'undeterrable'.[63] Deterring the 'undeterrable' is by definition impossible, whether by threats of punishment (nuclear or non-nuclear) or by threats of denial of operational objectives. That some adversaries may not be restrained by any deterrent posture has been recognized at least since 1955, when Winston Churchill pointed out that 'The deterrent does not cover the case of lunatics or dictators in the mood of Hitler when he found himself in his final dug-out.'[64]

Despite the fact that the United States and other western governments had not designed their deterrence postures to prevent terrorist assaults, large-scale terrorist attacks since 2001 in the United States, Spain and elsewhere have eroded the confidence in deterrence that was already weakening in some circles, owing in part to WMD proliferation. Major terrorist attacks have been viewed as an indicator of (a) the fallibility of deterrence based on threats of retaliation, and (b) the willingness of fanatical adversaries to strike civilian targets such as cities. Analyses of deterrence have since the 1950s routinely noted uncertainties about how rational and well-informed adversary leaders might be. However, the new context has underlined the risk that the deterrent postures of western governments might not 'be decisive in the decision-making of opposing leaders who might be willing martyrs, desperate gamblers, incommunicado, ignorant, self-destructive, self-absorbed or motivated by absolute, intangible goals'.[65] It should nonetheless be recalled that adversaries in command of states have assets, including their sources of power, which can be held at risk; and this gives a strong plausibility to the efficacy of retaliatory threats—assuming that these threats are effectively communicated and taken seriously.

The extent to which grounds for confidence in deterrence have been undermined is ultimately unmeasurable. The previous confidence may have been misplaced and even naïve; and today's deterrence postures may have greater robustness in specific circumstances, at least against some adversaries, than it now seems prudent to assume. Moreover, the reliability of deterrence in specific cases is likely to vary substantially. In some cases, however, it may have a more immediately operational dimension than was the case during the Cold War. The failure of deterrence by threat of punishment, even if complemented by deterrence by denial, may be a more urgent prospect. British, French and US leaders may have to choose whether (and how) to implement threats of punishment, particularly if denial capabilities (including missile defences) prove ineffective.

Indeed, in the foreseeable future it seems unlikely that limited and still-experimental missile defences would by themselves deter missile attacks by a

[63] Douglas J. Feith, under-secretary of defense for policy, prepared statement for the hearing on the Nuclear Posture Review, Senate Armed Services Committee, 14 Feb. 2002, p. 4.
[64] Winston Churchill, then prime minister of the United Kingdom, speech on 1 March 1955, in Winston S. Churchill, *Complete speeches, 1897–1963*, ed. Robert Rhodes James, vol. VIII, *1950–1963* (New York and London: Chelsea House Publishers/Bowker, 1974), p. 8630.
[65] Keith Payne, 'NPR moves US beyond "balance of terror"', *Defense News*, 15 March 2004, p. 15.

regional power. However, the threat that missile attacks would be defeated might usefully supplement the threat of violent retribution. The objective would be not simply deterring aggression by a regional power, but also reducing the prospect that the United States and other external powers would themselves be deterred by such a state. From this perspective, defences capable of countering the missiles of regional powers may have greater value in maintaining US and allied freedom of action than in actually deterring such states. The deterrence-reinforcement effect of missile defences might be less significant than the reduction in vulnerability to missile attack and the corresponding boost to freedom of action in contemplating armed intervention against WMD proliferants and other potential adversaries. Increased US and allied freedom of action could nonetheless also contribute to deterrence.

To what extent has it been prudent to scale back deployed nuclear capabilities and redefine threats of nuclear retaliation?

Britain, France and the United States have all cut back their nuclear arsenals substantially since the end of the Cold War, in terms of both types of delivery systems and numbers of warheads. Indeed, US reductions in total numbers of warheads began in the mid-1960s, with some fluctuations, and the trend continued in the 1970s, 1980s and 1990s.[66]

Despite the impression conveyed by some journalistic accounts, the essential thrust of the 2001 US NPR was to reduce further America's reliance on nuclear weapons and to increase investments in non-nuclear strike and defensive systems. In February 2002 Feith indicated that 'In some cases, where nuclear weapons may have been necessary for deterrence and defence in the past, the use of advanced non-nuclear strike capabilities or defensive systems may now be sufficient militarily, involve less risk for the US and our allies, and be more credible to foes.'[67]

The use of non-nuclear strike or defensive systems (such as missile defences) would presumably 'be more credible to foes' because none of the inhibitions and disincentives associated with the possible employment of nuclear weapons would be present. These inhibitions involve several categories of factors, including profound psychological reluctance, within the United States and other western societies, to break the 'taboo' against operational use of nuclear weapons tacitly observed since 1945; concern about the strong political reactions, within the United States and abroad, that any use of nuclear weapons could provoke;

[66] See News Release 424-83, 'Fact sheet: the United States nuclear weapons stockpile', 25 Aug. 1983, Office of the Assistant Secretary of Defense (Public Affairs). See also 'Declassification of certain characteristics of the United States nuclear weapon stockpile', Office of the Press Secretary, US Department of Energy, www.osti.gov/html/osti/opennet/document/press/pc26.html; and Natural Resources Defense Council, 'Figure of US nuclear stockpile, 1945–2002', www.nrdc.org/nuclear/nudb/dafig9.asp.

[67] Douglas J. Feith, under-secretary of defense for policy, prepared statement for the hearing on the Nuclear Posture Review, Senate Armed Services Committee, 14 Feb. 2002, p. 4.

anxiety about the possible corrosive effects of use on the international nuclear nonproliferation regime; and apprehension about the risk that escalatory pressures involving other powers, including nuclear weapons states such as Russia and/or China, in the conflict could emerge rapidly and be difficult to control.

Feith's statement that the use of non-nuclear strike or defensive systems would 'involve less risk for the US and our allies' may have referred more to the political and strategic risks of provoking the involvement of other powers, including nuclear weapons states, in the conflict than to the physical risks associated with nuclear weapons use. These physical risks could range from degraded operational performance owing to electromagnetic pulse to fallout affecting the immediate area and eventually the global ecosphere. The nature and magnitude of such effects could depend on factors such as the weapons' yield and design, the target set, the number of weapons detonated, the height of the explosions (whether airburst or groundburst) and so on.

Carrying out threats to use nuclear weapons could raise the issue of the legitimacy of nuclear deterrence in western societies for the primary function of war prevention. Moreover, as suggested above, one of the inhibitions associated with any hypothetical US (or British or French) decision to use nuclear weapons operationally—as opposed to using them as a deterrent threat—would be the risk of 'legitimizing' or 'licensing' the use of nuclear weapons by others and perhaps stimulating further nuclear proliferation.

Some French observers have advanced a related rationale for restraint in making and carrying out nuclear threats. The results of actual use might convey the impression that the effects of nuclear weapons use are 'manageable' or 'sustainable'. If governments concluded that the consequences of nuclear weapons use were sustainable, at least in some circumstances, with genuine political–military utility, they might increasingly regard nuclear arms as suitable for operational employment. This might in turn promote the further proliferation of nuclear weapons, and increase the probability of actual use in subsequent conflicts. Various French observers have for years argued that it is imperative for these reasons to uphold and maintain the nuclear taboo as long as possible. Retired Admiral Marcel Duval, for example, wrote in 1995 that it is proper

> to prepare for the eventuality of a conflict with an adversary armed with primitive nuclear weapons, with regard to whom the deterrent—that is, the threat of massive nuclear retaliation—would be inappropriate, psychologically ineffective, or morally inadmissible. It is prudent to conceive of other strategies, weapons systems, and means of protection for these eventualities. Emerging technologies, without recourse to nuclear weapons, might enable us to respond to these eventualities, because it is imperative in our view to preserve the 'taboo' against using nuclear weapons which is the basis of their peace-preserving effect … The banalization of nuclear weapons would not fail to lead to their use and then to the end of their peace-preserving effect.[68]

[68] Admiral Marcel Duval, 'De la non-prolifération à la contre-prolifération?', *Défense Nationale*, Aug.–Sept. 1995, pp. 37, 39.

In practice, it is clear, the strong preference of Britain, France and the United States (and the other allies) would be to avoid using nuclear weapons and to rely on conventional forces and other means of deterrence and intervention. At the same time, as official statements suggest, the western nuclear powers are reluctant to give up whatever deterrent value may reside in retaining some ambiguity about a possible nuclear response to an enemy's use of chemical or biological weapons against their forces, populations or allies.

To what extent would limited nuclear options enhance deterrence and simplify nuclear employment decisions?

Some observers have questioned whether the threat of nuclear retaliation could serve as an effective deterrent to the use of chemical or biological weapons if the threatened governments and organizations judged that the actual employment of nuclear arms would be disproportionate, counterproductive and ultimately harmful to the government using them. One hypothetical means, some have suggested, to restore a measure of credibility to nuclear retaliatory threats might be to develop more operationally useful employment options. The idea of wielding more limited, controllable and discriminate options has been in circulation for decades; and it has been restated in recent years.

The French have continued to reaffirm their commitment to a non-use (*non-emploi*) doctrine, but they have noted the need for 'adaptations' in the weapons to ensure that they are 'sufficiently flexible and diversified'. As noted earlier, French Defence Minister Michèle Alliot-Marie explained in February 2004, 'Those facing us must not be able to think that the effects of our weapons on their populations would be such that we would hesitate to use them.'[69] This was a reformulation of Chirac's June 2001 declaration that France would have options other than 'all or nothing'. France has accordingly devised nuclear weapons that are, in General Bentégeat's words, 'sufficiently accurate and of sufficiently limited yield' to destroy an enemy's 'power centres' and 'military centres'.[70]

The British have said little more than the French about what London calls 'sub-strategic' employment options. According to the 1998 SDR's discussion of Trident's 'sub-strategic' role, 'The credibility of deterrence also depends on retaining an option for a limited strike that would not automatically lead to a full scale nuclear exchange.'[71] In 1999 George Robertson, then the secretary of state for defence, stated that 'In extreme circumstances of self defence, a capability for the more limited use of nuclear weapons would allow us to signal to an aggressor that he has miscalculated our resolve, without using the full

[69] Michèle Alliot-Marie, allocution devant la 56ème session nationale de l'Institut des Hautes Études de Défense Nationale, 2 Feb. 2004, available at www.defense.gouv.fr/actualites/communiques/2004/d030204/030204.htm.

[70] General Henri Bentégeat, interview with Gilles Delafon, 'Des Français en Irak? "Pas à l'ordre du jour"', *Le Journal du Dimanche*, 13 July 2003.

[71] Ministry of Defence, *The Strategic Defence Review*, p. 18, para. 63.

destructive power that Trident offers.'[72] Later that year he added, 'The UK has flexibility in the choice of yield for the warheads on its Trident missile.'[73] Some observers have construed references to 'varying sub-strategic capability' on some Trident missiles as implying that fewer warheads are deployed on some missiles,[74] but this does not seem to have been confirmed by any official public source.

While the US administration supports investigating the potential need for (and feasibility of constructing) new low-yield and earth-penetrating nuclear weapons, it has not decided whether to develop them. It has underscored the fact that, even if these weapons were developed and deployed, their availability would not simplify or increase the likelihood of nuclear employment decisions. In the words of Linton Brooks in March 2004,

> While press accounts have spoken of Administration plans to develop new, low yield weapons, there are no such plans … Nor are US research and development programs blurring the line between conventional and nuclear weapons, making nuclear use more likely. This is not simply an assertion, but is empirically based. Recall that from the 1950s and continuing through today, the US nuclear stockpile has contained warheads capable of producing very low nuclear yields. At the height of the Cold War many thousands of these warheads were deployed, but never used—even in regional confrontations where their use would not necessarily have provoked a Soviet response. There is no evidence that the simple possession of these weapons made nuclear use by the United States more likely. To be clear, only the President can authorize use of US nuclear weapons and no President would be inclined to employ any nuclear weapon, irrespective of its explosive power, in anything but the gravest of circumstances. Simply put, the nuclear threshold for the United States has been, is, and always will be very high.[75]

In other words, while there might well be some merit in the decades-old argument that weapons with more discriminate and controllable effects would in fact enhance deterrence by making a threatened nuclear response appear more feasible and hence more credible in the eyes of a specific adversary, such weapons would probably not in fact simplify nuclear use decisions in Washington—or London or Paris.

As a result, while these capitals may maintain and develop more controllable nuclear employment options with a view to enhancing deterrence, sending a signal of restraint and determination, and/or limiting damage in desperate circumstances, they will probably continue to seek various means to reduce their dependence on threats of nuclear retaliation. As in the past, the preferred approach will be to uphold and, if possible, strengthen the array of deterrence

[72] Answer by George Robertson to parliamentary question: *Hansard* (Commons), 26 March 1999, col. 433.
[73] Answer by George Robertson to Parliamentary question: *Hansard* (Commons), 26 July 1999, col. 59.
[74] According to Peter Hennessy, each British Trident submarine carries 'seven missiles with a strategic payload' and 'three missiles of varying substrategic capability': Hennessy, *The secret state: Whitehall and the Cold War*, rev. and updated edn (London: Penguin, 2003), p. 222.
[75] Statement of Ambassador Linton F. Brooks, under-secretary of energy for nuclear security and administrator, National Nuclear Security Administration, before the Subcommittee on Strategic Forces, Senate Armed Services Committee, 24 March 2004, p. 7.

and containment measures—including arms control in some areas—intended to lower the likelihood of conflict, terrorism and WMD proliferation. In view of the fallibility of international norms, arms control measures, export control regimes and other arrangements, hedges against their failure will include military preparations. To lessen reliance on nuclear arms, these governments will have incentives—within the bounds of affordability—to develop non-nuclear strike options, expeditionary and power-projection assets, and active and passive defences. These capabilities may enhance deterrence and will offer more attractive instruments for action than nuclear weapons.

Capabilities to survive and recover from terrorist or regional power WMD attacks are useful in all circumstances, even if deterrence efforts based on threats of punishment or of operational defeat fail. This conclusion has followed inexorably from analyses of terrorist threats, generally regarded as the least susceptible to deterrence. The three western nuclear powers (and others) are therefore likely to devote more attention and resources to cultivating national resilience and consequence-mitigation capabilities.

What level of confidence should be placed in the full array of deterrence and containment measures?

To what extent is it prudent to rely on a combination of non-proliferation regimes (including inspection requirements), export controls and deterrence doctrines and capabilities to contain threats and avoid catastrophic terrorist or WMD proliferant-state attacks? While it may be possible in some cases to improve relations with proliferant states through economic and diplomatic instruments and to exert some degree of moral and political suasion by upholding international norms, none of these measures has any guarantee of success.

Of the three western nuclear powers, the French government has expressed the greatest confidence in the reliability of such measures, and the US government has articulated the gravest doubts about their effectiveness. Various US experts have made a case for readiness to engage in pre-emptive action in some circumstances.[76] In June 2002 President Bush said, 'Containment is not possible when unbalanced dictators with weapons of mass destruction can deliver those weapons on missiles or secretly provide them to terrorist allies.'[77]

Doubts about the reliability and effectiveness of containment measures (including non-proliferation regimes and deterrence postures) in all cases lead logically to preparations for their failure, from missile defences and interventionary capabilities to doctrines of pre-emption and preventive war.

While even the French acknowledge that pre-emptive action may be justified in some cases, the discord over the US-led intervention in Iraq, conducted

[76] For an incisive discussion, see Walter B. Slocombe, 'Force, pre-emption and legitimacy', *Survival* 45, Spring 2003. Slocombe served as the US under-secretary of defense for policy, 1994–2001.

[77] Remarks by the President at 2002 graduation exercise of the United States Military Academy, West Point, New York, 1 June 2002, available at www.whitehouse.gov/news/releases/2002/06/print/20020601–3.html.

with strong British support, illustrates how difficult it is to reach a consensus on the status of a particular power's WMD programmes and the links (if any) between this power and terrorist groups. Critics of the intervention argued that there was no evidence that Saddam Hussein had WMD or that he was about to attack the United States or to transfer WMD to terrorists, and that this was therefore not a pre-emptive action but a preventive war—a war waged on the basis of a hypothetical future threat.

It is not obvious how to prepare for the failure of containment and deterrence measures, and the prescriptions advanced by the United States have not won universal assent in the Atlantic alliance. Some allied observers continue to express doubts about missile defences, owing in large part to their cost and uncertainties about their technical reliability. Some argue that the cost would be disproportionate to the number of missiles that might be launched against allied targets in the foreseeable future, that there are many non-missile means of delivering WMD, and that timely pre-emptive or preventive action with conventional military forces could be more reliable and effective than missile defences. When the argument is presented in this fashion, the obvious rejoinder is that it is not necessarily an either/or question, and that it would be desirable to have both missile defences and interventionary capabilities. The reply of some allied observers would be that their governments cannot afford both.

Effective containment and deterrence measures are obviously preferable to pre-emption and preventive war, and not only because the latter courses of action may in some cases create pretexts for further terrorism and WMD proliferation. The problem arises from the prospect that containment and deterrence measures may fail. Might it be possible, however, to strengthen those measures and reduce the risk of their failure? Could one, for example, constructively shape international norms?

According to the British government's 'New Chapter' deterrence policy, as noted earlier, 'Creating the right international climate will be important, fostering the view in all cultures that certain actions are to be condemned as criminal acts.'[78] This observation assumes that it is possible to shape convictions about the legitimate forms of political action. The theory is similar to that behind efforts to create an international norm against chemical and biological weapons—that is, one might promote a more robust norm against terrorist actions. By making such actions illegitimate, one might render them less likely, or at least make it easier to organize retaliation against their perpetrators.

It is obviously difficult to promote such norms, but there is clearly an empirical basis for the theory. Normative standards can influence decision-making, particularly when states are persuaded that respecting them would be consistent with their security interests and when they see that other states have the political will to uphold them. It might seem that the acquisition or use of chemical or biological weapons would be a matter of objective fact. However,

[78] Ministry of Defence, *The Strategic Defence Review: A New Chapter*, p. 12.

some observers (including governments) have at times declined to acknowledge facts deemed inconvenient or diplomatically inopportune, while other observers have been convinced of 'facts' subsequently shown to have had speculative foundations. Such problems are even more severe with questions as politically charged as defining terrorism and identifying specific people and groups as terrorists. However, the general principle remains valid: if a norm is to be firmly established and widely respected, cases of non-compliance must be addressed effectively. In other words, articulating and promoting norms may well contribute to international peace and security, but norms cannot stand alone; they must be reliably enforced if they are to serve as instruments of deterrence and containment.

To what extent is deterrence national policy, and to what extent is it alliance policy?

The NATO allies have long agreed that the British, French and US nuclear deterrent forces contribute to their security: 'The supreme guarantee of the security of the Allies is provided by the strategic nuclear forces of the Alliance, particularly those of the United States; the independent nuclear forces of the United Kingdom and France, which have a deterrent role of their own, contribute to the overall deterrence and security of the Allies.'[79] As noted in the 1999 Strategic Concept, the allies have also concurred on the basic purpose of these nuclear forces:

> The fundamental purpose of the nuclear forces of the Allies is political: to preserve peace and prevent coercion and any kind of war. They will continue to fulfil an essential role by ensuring uncertainty in the mind of any aggressor about the nature of the Allies' response to military aggression. They demonstrate that aggression of any kind is not a rational option.[80]

The allies have even tacitly endorsed a role for nuclear forces in deterring WMD proliferants, if one assumes that official references to 'forces' encompass these capabilities. According to the 1999 Strategic Concept,

> The Alliance's forces … contribute to the preservation of peace, to the safeguarding of common security interests of Alliance members, and to the maintenance of the security and stability of the Euro-Atlantic area. By deterring the use of NBC weapons, they contribute to Alliance efforts aimed at preventing the proliferation of these weapons and their delivery means.[81]

[79] North Atlantic Council, Strategic Concept, 24 April 1999, para. 62. This statement repeated an identical statement in the alliance's Strategic Concept of 7 Nov. 1991 (para. 55). This wording represented a recasting of the formula used in the alliance's 19 June 1974 Ottawa Declaration, which noted that two of the European allies 'possess nuclear forces capable of playing a deterrent role of their own contributing to the overall strengthening of the deterrence of the Alliance'.

[80] North Atlantic Council, Strategic Concept, 24 April 1999, para. 62.

[81] North Atlantic Council, Strategic Concept, 24 April 1999, para. 41.

There are probably limits to formulating and articulating a more specific alliance policy on deterrence of WMD proliferants. British, French and US officials have all made statements not ruling out nuclear retaliation for chemical or biological weapons attacks, despite their national negative security assurances. Their intention has evidently been to gain whatever deterrence benefit might be available, and this may be in the general interest of the alliance. It would, however, be difficult to revise NATO's declared policy so that it would explicitly not rule out nuclear retaliation for such attacks. While the allies agreed in the 1999 Strategic Concept, as noted above, that nuclear weapons 'fulfil an essential role by ensuring uncertainty in the mind of any aggressor about the nature of the Allies' response to military aggression', this statement has generally been seen as a refusal to make a no-first-use pledge. It should be recalled that the 1999 Strategic Concept reaffirmed NATO's long-standing policy in this regard in the context of the 1998–9 discussion of no-first-use proposals. The allies have not made any collective statement declining to rule out nuclear retaliation in reply to an enemy's use of chemical or biological weapons as explicit as the declarations made by London, Paris and Washington.

In view of the policies of Canada and some other allies, it could be counterproductive to seek such a revision in declared alliance policy, because the attempt could highlight internal differences, undermine deterrence and erode alliance cohesion. Such a revision is probably unnecessary as well. In crises involving deterrence, the declared policy of the alliance may well be less relevant than that of national governments, notably those armed with formidable conventional power-projection capabilities as well as nuclear weapons. As in the past, the leading capitals of the alliance with such capabilities remain London, Paris and Washington. These capitals have resisted the formulation of an alliance policy on negative security assurances on the grounds that such unilateral national undertakings are matters for the countries making them, not their allies.

To what extent could the policy differences among the three western nuclear powers lead to difficulties in managing future crises? France and the United States have, for example, qualified the applicability of their negative security assurances to a greater extent than has Britain. France and Britain attach a high priority to missile defences for deployed forces, whereas the United States has also placed growing emphasis on protection for the national homeland. The unique features of French policy include the idea of 'final warning' strikes preceding a massive attack; and French experts note that the 'final warning' would be strategic, not 'non-strategic' or 'sub-strategic', the terms favoured by the Americans and the British respectively. The French have not articulated a concept of personal accountability analogous to that advanced by the British and the Americans.

In managing a genuine crisis, some observers argue, such doctrinal differences would be disregarded as London, Paris and Washington dealt with the specific elements of the case at hand. By this logic, ad hoc, improvised consultations under the pressure of events would be effective in resolving policy

differences, and the three western nuclear powers would forge a consensus acceptable to their allies. Whether they could agree on how to coordinate their differing policies or define a common policy might depend, however, on the unique circumstances of the crisis. While peacetime exercises involving communication channels and action options in hypothetical crises might help to prepare officials, neither consensus nor success in the management of actual contingencies could be guaranteed.

The three western nuclear powers could be divided in their assessments of the situation and their views on what to do about it. Differing policies and actions might have positive effects for deterrence and crisis management in some cases, but could lead to disarray, mixed signals and deterrence failure in other cases—for instance, if an ally changed course in the light of events, such as a regional power's action against its forces or a security partner's forces or interests. Even if the three western nuclear powers agreed on what to do and on thresholds for possible nuclear use (and the scope of such use), problems of getting the adversary to cooperate and behave in accordance with the preferred scenario could remain. In other words, the allies could face some of the same questions concerning escalation control and war termination that they were never able to answer satisfactorily during the Cold War in deliberations about actual nuclear operations. For instance, how would the recipient of a strike know that it should be regarded as limited and intended to bring the conflict to an end? How could he be given incentives to exercise restraint?

Britain and the United States have promised to consult their NATO allies before using nuclear weapons, 'time and circumstances permitting',[82] but only London and Washington can make the employment decisions regarding their own weapons. While Paris has not made similar consultation commitments, in June 2001 President Chirac repeated long-standing French convictions that France's nuclear forces also contribute to the security of the Atlantic alliance and the European Union. France alone, however, will decide whether and how to use its nuclear forces on behalf of its own security or in defence of broader alliance and/or EU security interests, and (to date at least) it has remained France's policy to do so without participating in NATO's Nuclear Planning Group or other alliance nuclear consultation mechanisms.

The allies have since the mid-1960s presented the impracticality of including France in NATO's nuclear consultation arrangements as in some ways beneficial. During the Cold War, the multiple centres of nuclear decision-making were seen as an advantage for deterrence; and this argument has not entirely disappeared. While most allies have been prepared to offer conventional military support for NATO's nuclear deterrence posture, with some accepting nuclear host and delivery responsibilities, others have preferred to limit their contributions to political support; and the alliance has allowed for such flexibility. Moreover, some allied observers hold that a requirement of alliance consensus

[82] For background on the so-called Athens guidelines, see Shaun R. Gregory, *Nuclear command and control in NATO* (London: Macmillan, 1996), pp. 34–5, 99, 103–4, 163.

for nuclear employment could undercut the credibility of deterrence and place unbearable political strains on some non-nuclear-weapons-state governments by making them explicit participants in a nuclear use decision.[83] At the same time, the nuclear-armed allies would have to engage in consultations if they sought alliance backing. The price of NATO cohesion has included a certain vagueness about operational nuclear deterrence arrangements. This applies to a much greater degree in the European Union, partly because its member states have not made any mutual defence commitment comparable to article 5 of the North Atlantic Treaty.

Deterrence and nuclear deterrence in particular have been among the topics implicitly excluded from the European Union's European Security and Defence Policy, both in the Petersberg tasks and in the prospective additional missions included in the constitutional treaty.[84] As Lawrence Freedman has noted, Britain and France intend to retain national control over their nuclear forces and manifest little appetite for making them EU policy matters, despite intermittent French references to concepts such as *dissuasion concertée*.[85]

> The benign neglect of the nuclear issue has been a necessary, though by no means sufficient, condition for progress on European defence cooperation … The old question of who is to deter on behalf of the non-nuclear European states has not gone away but just, for the moment, lost salience. It is not yet clear that there are any better new answers than the old answers, which are highly dependent upon American extended deterrence.[86]

The conundrums of deterrence are nonetheless not burdens and responsibilities only for the alliance's three nuclear powers. They affect the interests of all their allies and security partners.

[83] Some experts maintain, moreover, that the references to 'control' in articles I and II of the NPT rule out any participation in a nuclear employment decision by a non-nuclear-weapons state.

[84] In 1992, the Council of Ministers of the Western European Union agreed that WEU forces could be employed for 'humanitarian and rescue tasks; peacekeeping tasks; [and] tasks of combat forces in crisis management, including peacemaking'. These became known as the Petersberg tasks and were included in the Amsterdam and Nice versions of the Treaty on European Union. The constitutional treaty for the EU envisages adding conflict prevention, joint disarmament operations, military advice and assistance, post-conflict stabilization, and support to third countries in combating terrorism, at their request. The practical significance of the references to solidarity and closer cooperation on mutual defence in the constitutional treaty remains to be defined.

[85] For background on *dissuasion concertée* see David S. Yost, *The US and nuclear deterrence in Europe*, Adelphi Paper no. 326 (London: Oxford University Press/International Institute for Strategic Studies, March 1999), pp. 36–41.

[86] Lawrence Freedman, 'Europe and deterrence', in Burkard Schmitt, ed., *Nuclear weapons: a new great debate*, Chaillot Paper 48 (Paris: Institute for Security Studies/Western European Union, July 2001), pp. 97, 102.